

The Irony of Oil: Two Contrasting Effects of Oil on State Repression

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| Abstract |

Prior studies have explained how oil encourages a state authority to repress its citizens by reducing its reliance on taxation revenues and by increasing its financial capability to strengthen repressive apparatuses. However, they have little explained how oil affects other alternatives to reduce dissent and how oil affects external pressures to a state's repression. To more specifically explain how oil affects state repression, this study decomposes oil into oil revenues and oil export strategic power, and suggests two testable hypotheses; oil revenues discourage a state authority from choosing repression by allowing for the provision of material concessions that is a cheaper alternative to reduce dissent than state repression; a state's oil export strategic power encourages a state authority to repress its citizens by reducing external pressures to the state's repression due to the importance of oil and the exporter-favored oil market structure. Empirical results support these hypotheses.

Keyword | oil export strategic power, oil revenues, state repression, the cost-benefit framework for state repression.

1. Introduction

Prior studies have argued that oil allows a state authority to choose state repression to reduce domestic threats to the authority. This is because oil revenues as a type of unearned state income provide fiscal capabilities to reduce a state's reliance on taxation revenues from citizens and to strengthen repressive apparatuses for a state authority (Bellin 2004; Conrad and DeMeritt 2012; DeMeritt and Young 2013). However, this argument little considers two characteristics of the relationship between a state authority's state repression decision making and oil. First, state repression is not the only solution for reducing domestic threats to a state authority, because oil revenues in a state can be used not only to repress citizens but also to buy off citizens. To understand the effect of oil on state repression, we should also consider how oil affects other alternatives to reduce domestic threats to a state authority. Second, democracies in the international society desire to spread democratic norms and thus to punish violators of democratic norms (Boix 2011). Thus, democracies are likely to punish states that repress their citizens (Choi 2013). However, democracies can eschew attempts to punish repressive states when expected costs of punishing a repressive state are high. For example, in 2017, although the United States (the US) imposed sanctions on Myanmar to punish ethnic cleansing against Muslim minorities in Myanmar, including the Rohingya, the US has eschewed attempts to impose a sanction on repressive oil-producing states (e.g., Saudi Arabia, the United Arab Emirates, Qatar, and Equatorial Guinea). This is because the US is willing to avoid unstable oil supplies caused by its pressures upon the oil-producing states. These cases reveal two implications; a state's oil affects international actors' decisions to punish a repressive state; an oil-producing state can anticipate that its repression is less likely to make international actors decide to

punish the state.

Thus, to more specifically explain the effect of oil on state repression, this study decomposes oil into two aspects, oil revenues and oil export leverage, and suggests two contrasting effects of oil on state repression. That is, this study argues that, although oil revenues reduce the likelihood of state repression by providing more chances to buy off citizens, oil export leverage increases the likelihood of state repression by reducing international audience costs of state repression. This study tests these two hypotheses using international event data from 1990 to 2004. Empirical results of this study support the hypotheses.

The remainder of this study is organized as follows. In the first section, a brief review of the literature on state repression reveals what motivates the occurrence of repression and what constrain state authorities from using repression. The second section explains two contrasting impacts of oil on state repression. In the third section, this study examines how oil revenues and oil export strategic power affects state repression. The final section discusses the implications of the empirical results.

2. The Cost–Benefit Approach to State Repression

Repression is any actual or threatened use of physical sanction taken by state authorities to control or prevent activities and/or beliefs that can challenge the authorities (Davenport 2007; Ritter and Conrad 2016). State repression includes harassment, surveillance/spying, bans, political arrests, torture, and extrajudicial killings (Davenport 2007). Repression may be violent or nonviolent, legal or illegal, widespread or targeted (Ritter 2014). The primary goal of state repression is to reduce citizens' capacity or willingness to challenge state authorities (Ritter 2014;

Ritter and Conrad 2016). A large literature has revealed that repression is state authorities' strategic actions based on a cost-benefit analysis (e.g., Pierskalla 2010; DeMeritt and Young 2013; Nordås and Davenport 2013). That is, after political leaders weigh benefits and costs of state repression, they decide to reduce challenges to them with state repression.

The main benefit of state repression is the maintenance of political office and power (Nordås and Davenport 2013). Because political leaders can access to rents to pursue their interests and can achieve desired policy outcomes when they retain power, they desire to maintain their power (Bueno de Mesquita et al. 2003). However, as citizens' challenges to a state authority increase, political leaders become less secure. Thus, although a state authority, which faces weak challenges to it and thus is politically secure, can stay in power without state repression, insecure leaders can consider state repression to reduce the challenges and to retain power (Ritter 2014; Ritter and Conrad 2016). That is, an increase in challenges to a state authority encourages political leaders to anticipate that expected benefits from state repression are sufficiently high (Ritter 2014).

However, state repression incurs three types of costs. First, state repression creates new social grievances that can beget new challenges to a state authority (e.g., dissent, protest, and revolution) (Lichbach 1987; Moore 2000; Carey 2006). In the short term, state repression reduces dissidents' willingness to challenge their state authority by increasing psychological and/or physical costs to participate in a protest and dissidents' capacity to mobilize a collective challenge to the authority (Bell et al. 2013). However, in the long term, persistent state repression encourages citizens to anticipate that their human rights can be violated by the government and thus to consider mutual protection from future violation of their human rights (Carey 2006). That is, persistent state repression can create new social grievances that allow citizens

to overcome psychological and physical costs to participate and mobilize a new collective challenge to their state authority. Thus, state repression is not always effective in reducing threats to state authorities (Gandhi 2008).

Second, state repression can cause economic slowdown. Generally, state repression contracts a state's economy, because repression involves the suppression of citizens' freedom that restricts economic activities and makes citizens less willing to pay their taxes due to a decrease in a state's credibility. Thus, state repression is likely to reduce a state's revenues from citizen taxation (Bueno de Mesquita and Smith 2009). Additionally, because a state authority needs strong repressive apparatuses, such as the military or secret police, to choose state repression, a state authority, which desires to repress its citizens, should invest money in strengthening and maintaining repressive apparatuses instead of in economic development or social welfare. This decision can reduce the state's potential ability to develop economy. However, if a state relies less on taxation revenues due to unearned state income (e.g., resource revenues or foreign aid), the state is less likely to suffer from this type of repression costs because state repression less damages the state's economy (Bueno de Mesquita and Smith 2009). Thus, a state authority relying more on unearned state income can more easily choose state repression to reduce challenges to it.

Third, state repression causes international audience costs, such as international shaming or sanctions by other countries and international organizations, isolation or exclusion from the international society, the termination of trade relations, and military intervention (Carey 2006). Because democracies in the international society desire to spread democratic norms (Boix 2011), they are likely to punish a state that violates citizens' human rights (Murdie and Davis 2012; Murdie and Peksen 2013). However, if a state, which violate citizens' human rights, provides significant strategic and/or economic benefits for democracies, they are likely to eschew

imposing international audience costs on the state (Levitsky and Way 2010). This is because political instability in the state created by democracies' pressures to punish the state can damage the democracies' strategic benefits and/or economic profits. That is, a strategically and/or economically significant partner of democracies is less likely to suffer from international audience costs to punish the partner's repression against its citizens.

3. Two Contrasting Effects of Oil on State Repression

Based on the cost-benefit approach to state repression, prior studies have argued that oil encourages a state authority to use repression to reduce it, because oil revenues as a type of unearned state income make a state less vulnerable to a decrease in taxation revenues (Smith 2008; Bueno de Mesquita and Smith 2009; Conrad and DeMeritt 2012; DeMeritt and Young 2013). Oil revenues also provide financial capabilities to strengthen repressive apparatuses for an oil-producing state (Cuaresma et al. 2011; Smith 2004; Wright et al. 2015). That is, an oil-producing state generally faces lower costs of state repression, and has stronger repressive apparatuses. Thus, an oil-producing state's authority can more easily choose state repression to reduce challenges to it.

However, this study argues that prior studies have not paid much attention to two important parts of effects of oil on a state authority's decision to repress citizens. First, prior studies' argument does not pay much attention to the implication of the cost-benefit approach to state repression that, when political leaders try to decide state repression, they not only calculate payoffs from state repression but also compare repression with alternatives to maintain control, such as material concessions

and rights concessions. Second, because oil revenues are generally generated by international trade, a state's oil affects both domestic actors and external actors who can punish the state's repression. Thus, to more specifically analyze effects of oil on state repression, oil should be decomposed into oil revenues (the impact of oil on domestic actors) and oil export leverage (the impact of oil on external actors). In this part, based on two aspects of oil, this study argues that oil revenues reduce the likelihood of state repression by making other alternatives to reduce challenges to a state authority more available while oil export leverage increases the likelihood of state repression by reducing international audience costs.

1) Oil Revenues and Concessions

Prior studies have suggested that a state authority has multiple alternatives to maintain control, including state repression, material concessions, and rights concessions (Conrad 2011). Because each alternative causes different types of costs and benefits, a state authority chooses a more beneficial and more effective alternative to maintain control than others after it compares available alternatives. That is, if a state authority considers state repression, the state authority both should calculate payoffs from state repression and should compare payoffs from state repression with payoffs from other alternatives to maintain control. Only if a state authority anticipates that benefits of state repression exceed its costs and that repression is more beneficial and more effective in reducing challenges to the authority than alternatives, the authority chooses repression. However, if a state authority anticipates that an alternative to maintain control is more beneficial and more effective than state repression, the authority does not choose state repression. Thus, to more thoroughly understand a state authority's decision to repress its

citizens, we should consider both payoffs from state repression and payoffs from other alternatives to maintain control.

As stated above, state repression is costly and not always effective due to three types of costs: the risk of new social grievances, economic costs, and international audience costs. However, a state authority has two more alternatives to maintain control: material concessions and rights concessions (Bueno de Mesquita and Smith 2009; Conrad 2011). Material concessions include social spending (e.g., healthcare, primary education, national defense, public transportation) and spending on private consumption goods that can be directed at citizens (Conrad 2011). Generally, although political leaders fear citizens' collective actions against the government, such as nonviolent protests and riots, citizens can stage a collective action against the government only if a substantial number of citizens has the willingness to participate in a collective action against the government and the ability to overcome barriers to the participation. However, material concessions reduce citizens' willingness to participate in a collective action against the government by reducing public grievances against the government. Although the provision of material concessions generally costs money, it does not cause political costs, such as new social grievances against the government or international audience costs (Bueno de Mesquita and Smith 2009; Conrad 2011). Thus, if a state has sufficient fiscal capabilities to provide material concessions, the provision of material concessions is cheaper than other alternative to reduce challenges to a state authority (Conrad 2011). Rights concessions constitute an opening of the political space that provides opportunities to share political opinions and to coordinate collective actions (e.g., improved press and media freedom and/or improved freedom of association, religion, and expression). Although the provision of rights concessions allows a state authority to reduce challenges to the authority without economic and/or political costs, as a

state authority provides more rights concessions, political leaders' ability to retain power should weaken (Bueno de Mesquita and Smith 2009; Conrad 2011).

Because oil is generally a state-owned asset, oil dramatically increases a state's fiscal capability and reduce the state's reliance on taxation revenues from citizens (Ross 2013). This impact of oil on a state's fiscal capability implies that oil-producing states generally have sufficient financial capabilities to strengthen repressive apparatuses and/or to provide material concessions. This study argues that, when a state authority faces challenges to it, the authority spends oil revenues to provide material concessions instead of to repress citizens. This is because, although the provision of material concessions causes only economic costs, state repression causes both economic and political costs and is not always effective. That is, in oil-producing states, the provision of material concessions is a cheaper alternative to reduce challenge to a state authority than state repression. Additionally, because the provision of good concessions reduces political leaders' ability to retain power, it is riskier than the provision of material concessions. For example, in the 1970s, after Venezuela obtained large oil revenues, Venezuelan government started to increase social welfare programs and subsidies for commodities and public services to dampen social grievances. Because the provision of material concessions successfully reduced citizens' grievances against the government, Venezuelan government neither repressed citizens nor provided rights concessions. This expectation yields the first hypothesis:

H1: As a state's oil revenues increase, its likelihood of repression should decrease.

2) Oil Export Leverage and International Audience Costs

Prior studies have argued that state repression is likely to involve international audience costs due to democracies' willingness to spread democratic norms and punish violators of democratic norms (Boix 2011; Murdie and Davis 2012; Murdie and Peksen 2013). This study argues that a repressive state's oil export reduces potential international pressures upon the state and thus encourages the state's authority to choose repression to reduce challenges to it. This is because a state's oil export makes democracies' foreign policy goals compete. To more specifically analyze the effect of oil export on state repression, this study focuses on the concept of exit costs, the opportunity costs associated with alternatives, and the concept of exit cost thresholds, the degree of exit costs beyond which a state cannot endure (Crescenzi, 2003). Exit costs are determined by two factors: asset specificity, the degree to which an asset can be replaced by an alternative; and market structure, the possibility that a state can find an alternative trade partner (Crescenzi 2003). For example, if a state imports an important resource without an alternative from a trade partner in a market with few exporters, the state's exit cost is higher than the state's exit cost threshold. That is, the state cannot bear the costs caused by the break of the state's trade tie with the trade partner; thus, the state is willing to avoid any situation that can break the trade tie. Crescenzi (2003) argued that if exit costs of a challenger that wants something from a target that desires to remain at the status quo are higher than the challenger's exit cost threshold, the challenger would be deterred from making a demand because the challenger cannot bear the costs caused by the break of the trade tie between the challenger and the target. That is, the trade tie between the target and a challenger can become the bargaining leverage of the target without sacrificing the possibility of using military force when

necessary.

In the international oil market, although oil is a primary energy source in most states, only a few states can produce and export quality oil. These characteristics of the international oil market indicate that, if democracies' pressures to a state's repression (e.g., economic sanction or military intervention) cause political instability in the state that damages its capability to produce and export oil, oil-importing states' economies can suffer from unstable oil supplies due to the difficulty in seeking an alternative oil-exporting state and to the importance of oil. For example, the 1979 Iranian Revolution damaged Iranian ability to produce and export oil, and thus rapidly increased international oil prices from \$15.85 to \$39.50 per barrel (British Petroleum 2014). The skyrocketing international oil prices damaged many oil-importing states' economies in the early 1980s. This case indicates that, in the international oil market, oil-importing states' oil exit costs are higher than their oil exit cost thresholds, while oil-exporting states' oil exit costs are lower than their oil exit cost thresholds. Thus, even if an oil-importing state as a challenger desires to make a demand for what the oil-importing state wants from an oil-exporting state, the oil-importing state is deterred from making a demand, as the demands can cause costs that the oil-importing state cannot bear.

The characteristics of the international oil market imply that, even if democratic oil-importing states desire to punish repressive oil-exporting states, the democracies are less likely to punish the oil-exporting states. This is because, democracies' pressures upon a repressive oil-exporting state can cause political instability that damages the oil-exporting state's capability to produce and export oil due to significant changes in the political and social structure. That is, democratic oil-importing states' pressures upon a repressive oil-exporting state can cause unstable oil supplies in the international oil market, and thus can significantly

damage the democracies' economies due to the importance of oil and the exporter-favored structure of the international oil market. Thus, because democracies' pressures upon a repressive oil-exporting can cause costs that democratic oil-importing states cannot bear, the democratic oil-importing states are generally deterred from punishing a repressive oil-exporting state. For example, in the 1990s, France imported approximately 10 percent of its total oil import from Cameroon and Gabon (International Energy Agency 1997-1999). In the 1990s, democracies that relied relatively less on Cameroon's and Gabon's oil exports, such as the US, cut assistance to punish human rights violations in those states. However, France

Table 1. Three Components of Oil Export Leverage.

	State A (SA)	State B (SB)
Component 1: amount of oil		
Component 2: number of oil export partners		
Component 3: proximity to all other states in the oil market		

Note: The black node is either State A or State B, and gray nodes are their oil trade partners. Thick arrows are State A's or State B's direct oil export ties, and thin arrows are State A's or State B's indirect oil export ties. Numbers are the amount of State A's or State B's oil export to oil trade partners.

eschewed attempts to punish Cameroon and Gabon, and even protected them from other democracies' pressures (Levitsky and Way 2010). These cases reveal that a state's oil export encourages the state to repress citizens.

To more specifically explain the impact of a state's oil export on its state repression, this study defines "oil export leverage" as the ability of a state's oil export to reduce oil-importing states' pressures to the state to punish its repression, and decompose a state's oil export leverage into three components: the amount of a state's oil exports; the number of a state's oil export partners; and the ability of a state to affect all of the other states in the international oil market. This study illustrates the components with two contrasting scenarios in Table I.

First, the amount of a state's oil export indicates how much democratic oil-importing states' pressures upon the state might damage oil-importing states' economies by causing political instability in the state that damages the state's ability to produce and export oil. That is, as the amount of a state's oil export increases, the state's political instability caused by democratic oil-importing states' pressures upon the state is more likely to create costs that the democracies cannot bear. Thus, an increase in the amount of a state's oil exports discourages democratic oil-importing states from employing pressures upon the state, because the democracies are willing to avoid the expected high exit costs. In the row for Component 1 in Table I, for example, State A exports a total of 40 metric tons of oil to two states, while State B exports a total of 30 metric tons to five states. Democratic oil-importing states are less likely to impose pressures to punish state repression upon State A than State B, because the democracies anticipate that State A's political instability caused by their pressures will more severely damage their economies than State B's political instability caused by their pressures.

Second, the number of a state's oil export partners indicates the number of states

that would be directly hurt by political instability in the state caused by democracies' pressures to punish the state's repression, damaging its capability to produce and export oil. That is, the number of a state's oil export partners indicates how many oil-importing states are actively willing to eschew attempts to impose pressures to punish state repression upon the state. In the row for Component 2 in Table I, for example, State A exports oil to two states, and State B exports to five states. If we assume that States A and B export the same amount of oil, State B's political instability caused by democracies' pressures to punish State B's repression, which damages State B's capability to produce and export oil, would damage more states' economies than State A's political instability caused by democracies' pressures to punish State A's repression, which damages State A's capability to produce and export oil. This outcome indicates that more democratic oil-importing states are willing to eschew attempts to impose pressures to punish state repression upon State B than upon State A.

Third, in the international oil market, an oil-exporting state's both direct and indirect oil trade ties affect oil-importing states' economies. For example, in 2012, Russia did not export oil to Chile. However, Chile imported oil from the United Kingdom (UK), which imported oil from Russia. Although Chile did not directly import oil from Russia, the break of the oil trade tie between the UK and Russia could affect oil supplies in the UK and thus the UK's decisions to export oil to Chile. In the row for Component 3 in Table I, for example, although States A and B export oil to two states, State A's oil trade partners export oil to three states, while State B's partners do not export oil, indicating that political instability in State A caused by democracies' pressures to punish State A's repression, which damages State A's ability to produce and export oil, can damage both economies of State A's oil trade partners and the economies of states that import oil from State A's

oil trade partners. However, political instability in State B caused by democracies' pressures to punish State B's repression, which damages State B's ability to produce and export oil, can damage only economies of State B's oil trade partners. Thus, more states are willing to eschew attempts to punish State A's repression than State B's repression. Based on the three components of oil export leverage, this study argues that, as a state's oil export leverage increases, the state is less likely to experience democracies' pressures to punish state repression upon the state and thus the state's likelihood of repression should increase. This leads to the second hypothesis:

H2: As a state's oil export leverage increases, its likelihood of repression should increase.

4. Research Design

This study tests two testable hypotheses; an increase in a state's oil revenues decreases its likelihood of repression (H1); an increase in a state's oil export leverage increases its likelihood of repression (H2). This study's unit of analysis is country-year for all states from 1990 to 2004. This study examines state repression using Ritter (2014)'s repression dataset. She extracted all conflictual events with government sources and civilian target from the Integrated Data for Events Analysis (IDEA) dataset that codes the lead sentences of Reuters news reports according to the type of event reported and that categorizes the source and target of each event, and coded them as repression. The dataset takes the value "one" in the year that a state experiences any repression event and "zero" otherwise. I refer to this measure as *Repression*. This dataset includes 150 states, and accounts for 1,104 repression cases

from 1990 to 2004 (55.28% of all country-years).¹⁾

To examine the impact of oil on state repression, this study employs the logistic regression. Standard errors are clustered by states to account for potential unobserved state-level heterogeneity. To control for temporal dependence, I include a variable counting the number of years without a state repression event with the cubic polynomial approximation (Carter and Signorino 2010). All independent variables are lagged one year to avoid endogeneity problems.

To test this study's hypotheses, this study employs two measures to capture each oil aspect. First, each state's oil revenues are estimated as the total value of crude oil production (metric tons) multiplied by the international oil price expressed in 2013 dollars using the EIA international oil production data (U.S. Energy Information Administration 2015) and the British Petroleum (BP) world oil prices data (British Petroleum 2014) and divided by the state's population size using the World Bank's World Development Indicators Data (World Bank 2018). This variable is logged. This study refers to it as *Oil Income*.

Second, this study measures each state's oil export leverage, using Woo (2017)'s "oil market power" index. He measured each component of oil export leverage, and combined them using Opsahl, Agneessens, and Skvoretz's (2010) closeness centrality in the weighted network. This study refers to it as *Oil Export Leverage*. This variable is a continuous variable.²⁾ An increase in a state's *Oil Export Leverage* indicates an increase in the state's ability to reduce democratic oil-importing states' pressures to punish state repression upon the state. The correlation coefficient of *Oil Income* and *Oil Export Leverage* is 0.643. Descriptive statistics of two independent

1) The dataset is unbalanced panel data.

2) *Oil Market Power*'s minimum value is zero, its mean is 3.413, and its standard deviation is 7.779.

variables are reported in Table 2.

Table 2. Descriptive Statistics of *Oil Income and Oil Export Leverage*.

	Mean	Standard deviation	Minimum	Median	Maximum
<i>Oil Income</i>	2.068	2.622	0	0.375	9.811
<i>Oil Export Leverage</i>	3.262	7.615	0	0	59.519

This study employs numerous control variables to assure that the factors identified in Table 2 are isolated from other measures that might influence state repression. This study includes each state’s level of democracy (Polity) using the Polity IV dataset (Marshall and Jagger 2008), the lagged values of repression and dissent onset (*Repression Onset* (t-1) and *Dissent Onset* (t-1)) using Ritter’s (2014) dataset, the natural log of the number of soldiers in a military (*Military Personnel*) using the CINC data (Singer, Bremer, and Stuckey 1972), the natural log of GDP per capita (*GDP/capita*) using Gleditsch’s (2002) dataset, and the logged population size (*Population*) (World Bank 2018).

Table 3. Oil Income, Oil Export Leverage, and State Repression, 1990-2004.

	Model 1 (H1 & H2)	Model 2 (US Alliance)	Model 3 (Job Security)	Model 4 (Executive Constraint)
<i>Oil Income</i>	-0.066 ⁺	-0.066 ⁺	-0.060 ⁺	-0.076*
(log)	(0.035)	(0.036)	(0.037)	(0.037)
<i>Oil Export Leverage</i>	0.031*	0.032*	0.026*	0.029*
	(0.013)	(0.014)	(0.013)	(0.014)
<i>Polity</i>	-0.027*	-0.022	-0.029*	
	(0.012)	(0.015)	(0.013)	

	Model 1 (H1 & H2)	Model 2 (US Alliance)	Model 3 (Job Security)	Model 4 (Executive Constraint)
<i>Executive</i>				-0.111**
<i>Constraints</i>				(0.040)
<i>Repression</i>	0.521 ⁺	0.544*	0.569*	0.499 ⁺
<i>Onset (t-1)</i>	(0.273)	(0.277)	(0.286)	(0.281)
<i>Dissent Onset</i>	0.611***	0.600***	0.593***	0.566***
<i>(t-1)</i>	(0.131)	(0.135)	(0.136)	(0.130)
<i>Military</i>	0.163 ⁺	0.186*	0.192 ⁺	0.200*
<i>Personnel (log)</i>	(0.091)	(0.094)	(0.098)	(0.093)
<i>GDP/capita</i>	0.118	0.099	0.117	0.203**
<i>(log)</i>	(0.072)	(0.073)	(0.075)	(0.077)
<i>Population (log)</i>	0.518***	0.535***	0.485***	0.523***
	(0.110)	(0.112)	(0.114)	(0.113)
<i>US Alliance</i>		-0.146		
		(0.182)		
<i>Job Security</i>			-0.628	
			(0.496)	
<i>Constant</i>	-6.139***	-6.228***	-5.548***	-6.619***
	(1.133)	(1.156)	(1.328)	(1.124)
<i>N</i>	1,997	1,969	1,864	1,921
<i>NStates</i>	150	148	141	148
<i>Wald chi2</i>	346.4***	345.0***	325.7***	329.7***

⁺ p < .10, *p < .05, **p < .01, ***p < .001 (two-tailed).

^a Dependent variable is *Repression*. Cell entries report coefficients and cluster-corrected standard errors(in parentheses) from logistic regressions. Years since repression not shown.

5. Results

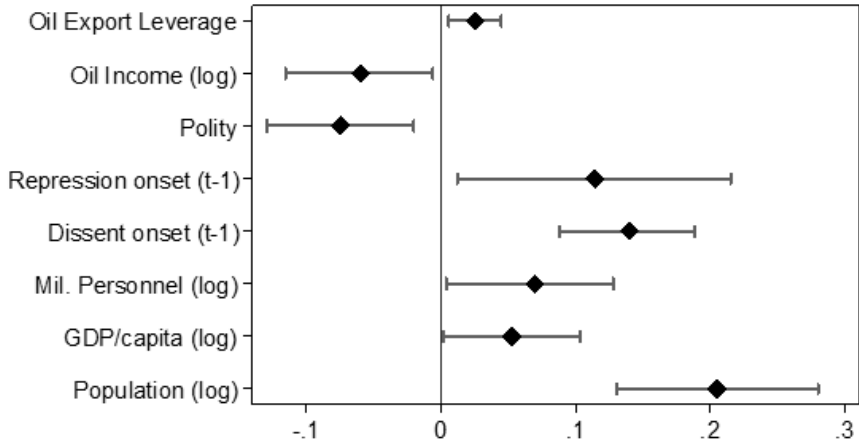
I begin by examining effects of oil on state repression. In Table 2, the dependent variable is *Repression*. To assure the robustness of the primary findings, this study also tests hypotheses with an alternative control variables to control effects of the US alliance, political leader's job security, and regime types on state repression in Models 2-3. All models can be interpreted similarly with positive coefficients indicating that an increase in the independent variables increases the likelihood of state repression.

Although the coefficient of *Oil Income* in Model 1 in Table 2 is negative and statistically significant, the coefficient of *Oil Export Leverage* in Model 1 in Table 2 is positive and statistically significant. This result supports this study's two hypotheses; as a state's oil revenues increase, the state's likelihood of repression should decrease; as a state's oil export leverage increases, the state's likelihood of repression should increase. Coefficients of the independent variables in Models 2-4 in Table 2 also support the two hypotheses.

Beyond statistical significance, this study calculates each variable's marginal effect on the dependent variable in Model 1 in Table 2 using the *Clarify*

program (King et al. 2000; Tomz et al. 2003). The results for these calculations with Model 1 in Table 2 are graphically presented in Figure 1, which display show we should expect the likelihood of state repression to vary when each independent or control variable is allowed to vary from its 25th to 75th percentile for continuous variables and from 0 to 1 for dichotomous variables while holding all other variables constant (means and modes). In substantive terms, the effect of a state's *Oil Income* on the likelihood of state repression is considerable. If a state's oil income per capita is zero, the likelihood of state repression would be approximately .724. However,

Figure 1. The Effect of Oil Export Leverage on State Repression, 1990-2004: Substantive Effects.



Note: Values reveal first difference (FD) estimations (◆) with 95% confidence intervals (I-I). Estimations come from Table 2, Model 1.

if a state's oil income per capita is 73dollars, such as Indonesia in 1991, the likelihood of state repression would be approximately .666, which represents a 7.89% decrease. The effect of a state's *Oil Export Leverage* on the likelihood of state repression is also considerable. If a state's *Oil Export Leverage* is zero, the likelihood of state repression would be approximately .672. However, if a state's *Oil Export Leverage* is 3.7, such as Equatorial Guinea in 1999, the likelihood of state repression would be approximately .697, which represents a 3.75% increase. This result supports this study's hypotheses.

Regarding the control variables, we see results that are generally consistent with previous studies. The increase in the level of democracy reduces the likelihood of state repression. If a state's polity score is 9, such as Jamaica, the state is around 9.90% (.7329-.6604) less likely to repress its citizens than a state, whose polity score

is -4, such as Cameroon. Repression onset and Dissent onset in a previous year also significantly affect the likelihood of state repression. A state is around 19.6% (.5824-.6966) more likely to repress citizens when the state repressed citizens in a previous year than when the state did not repress them in a previous year. If a state experiences a severe protest in a previous, the state is around 25.1% more likely to repress citizens. Finally, two variables to control the effect of a state's ability to repress on state repression, *Military Personnel (log)* and *Population (log)*, significantly affect the likelihood of state repression. A move from the 25th to 75th percentile (2.56-4.73, ln values) in *Military Personnel (log)* increases the likelihood of state repression by around 10.7% (.6563-.7266), and a move from the 25th to 75th percentile (8.30-10.19, ln values) in *Population (log)* increases the likelihood of state repression by around 35.2% (.5819-.7870). However, coefficients of *GDP/capita (log)* is not statistically significant.

6. Conclusion

This study explores effects of oil on state repression. Prior studies have argued that oil encourages a state authority to repress its citizens by reducing the state's reliance on taxation revenues and by improving its financial capability to strengthen repressive apparatuses. However, this study suggests that effects of oil on state repression are more complicated than what prior studies have argued. This is because prior studies have relatively little paid attention to other alternatives to reduce challenges to it and impacts of oil on external actors' decision making. First, a state authority chooses a cheaper and more effective alternative to maintain control than others. Generally, state repression incurs both economic and political costs, although

the provision of material concessions incurs only economic costs (Conrad 2011). Thus, if a state has sufficient financial capabilities to provide material concessions, the provision of material concessions is a cheaper alternative to maintain control than state repression. Additionally, because the provision of rights concessions potentially increases a state authority's risk of losing power, a state authority with sufficient financial capability does not prefer this alternative to other alternatives to maintain control (Conrad 2011). Because oil dramatically increases a state authority's fiscal capabilities, in oil-producing states, the provision of material concessions is a cheaper alternative to maintain control than others. Thus, as a state's oil revenues increase, the state is more likely to choose the provision of material concessions than repression to maintain control, and thus the likelihood of repression in the state should decrease.

Second, oil is a primary energy source in most states but few states can produce and export quality oil. Thus, political instability in an oil-producing state that damages the state's capability to produce and export oil can hurt oil-importing states' economies. Although democracies are willing to punish a repressive state, they also fear that their pressures upon a repressive oil-exporting state can damage the state's capability to produce and export oil and thus their economies. Because an oil-exporting state anticipates that its repression is less likely to suffer from democracies' punishment, the state can more easily decide to repress its citizens. This study's empirical results support these two ideas.

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투고일: 2018. 02. 08. 심사일: 2018. 03. 15. 게재확정일: 2018. 04. 09.
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석유의 역설: 국가탄압에 대한 석유의 두 가지 대조적 효과

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기존 연구는 석유수익이 정부의 세수 의존도를 낮추고 탄압을 위한 국가기구를 강화시킬 수 있는 재정능력을 향상시켜 국가가 시민을 보다 쉽게 탄압할 수 있게 한다고 주장하고 있다. 그러나 기존연구는 석유가 정부에 대한 시민의 반발을 완화할 수 있는 다른 정책들에 미치는 영향과 국가 탄압에 대한 외부 행위자들의 압력에 대한 영향을 거의 고려하지 않았다. 이는 기존연구가 석유가 국가 탄압에 미치는 영향을 제대로 분석하고 있지 못함을 의미한다. 따라서 본 연구는 석유가 국가탄압에 미치는 영향력을 1인당 석유수익과 석유 수출 전략적 권력으로 나누고 석유가 국가 탄압에 다음의 두 가지 대조적인 영향력을 갖고 있다고 주장한다. 첫째, 1인당 석유 수익의 증가는 국가 탄압 보다 내부반발을 적은 비용으로 낮추는 정부의 복지제공 능력을 향상시켜 정부가 국가 탄압을 덜 선택하게 만든다. 둘째, 석유 수출 전략적 권력은 외부 행위자가 국가 탄압에 대한 압력을 행사하는 확률을 낮춰 정부의 국가 탄압 비용을 낮춘다. 본 연구의 분석결과는 이 두 가설을 뒷받침하고 있다.

주제어 | 석유 수출 전략적 권력, 석유 수익, 국가 탄압, 국가 탄압에 대한 비용-이익 분석틀